

Appendix J

Inadvertent Discovery Plan Results

CULTURAL RESOURCES REPORT COVER SHEET

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Title of Report: Lower Duwamish Waterway Upper Reach Remedial Design Phase II Pre-Design Investigation Draft Archaeological Monitoring Report, King County, Washington

Date of Report: September 3, 2021

County(ies): King Section: 4, 29, 30, 32, 33 Township: 23, 24 Range: 4E
Quad: Seattle South Acres: 301.27

PDF of report submitted (REQUIRED) ☒ Yes

Historic Property Inventory Forms to be Approved Online? ☐ Yes ☒ No

Archaeological Site(s)/Isolate(s) Found or Amended? ☐ Yes ☒ No

TCP(s) found? ☐ Yes ☒ No

Replace a draft? ☐ Yes ☒ No

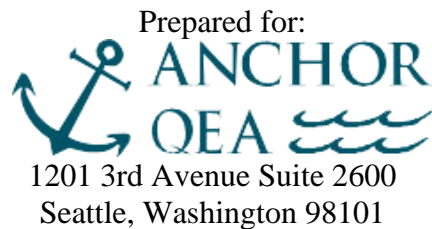
Satisfy a DAHP Archaeological Excavation Permit requirement? ☐ Yes # ☒ No

Were Human Remains Found? ☐ Yes DAHP Case # ☒ No

Archaeological Site #:

DRAFT: LOWER DUWAMISH WATERWAY UPPER REACH REMEDIAL DESIGN PHASE II PRE-DESIGN INVESTIGATION ARCHAEOLOGICAL MONITORING REPORT, KING COUNTY, WASHINGTON

September 2021



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Stell Project No.: ANC002

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Appendix A: Monitoring and Inadvertent Discovery Plan

Acronyms and Abbreviations

APE	Area of Potential Effect
BP	Before Present
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cm	centimeter(s)
CPT	Cone Penetration Testing
DAHP	Washington Department of Archaeology and Historic Preservation
DCP	Dynamic Cone Penetrometer
EPA	United States Environment Protection Agency
GLO	Government Land Office
LDW	Lower Duwamish Waterway
m	meter(s)
m ²	meter(s) squared
MHHW	Mean higher high water
MLLW	Mean lower low water
MOHAI	Museum of History and Industry
NA	Not Applicable
NHPA	National Historic Preservation Act of 1966, as amended
NRHP	National Register of Historic Places
PDI	Pre-Design Investigations
Project	Phase II sampling for the Lower Duwamish Waterway Sediment Cleanup
RAL	Remedial Action Level
RM	River Mile
ROD	Record of Decision
Site, the	The Lower Duwamish Waterway
Stell	Stell Environmental Enterprises, Inc.
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USGS	United States Geological Survey
VST	Vane Shear Test
WISAARD	Washington Information System for Architectural and Archaeological Records Data

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EXECUTIVE SUMMARY

Stell Environmental Enterprises, Inc. was contracted by Anchor QEA to conduct cultural resource monitoring for the pre-design investigations Phase II sampling for the Lower Duwamish Waterway (LDW) Sediment Cleanup (the Project). The Project Area of Potential Effect is located on the upper reach of the LDW, from 3 to 5 miles upstream from the mouth of the Duwamish River (River Mile 3-5). A literature review of Washington Information System for Architectural and Archaeological Records Data, as well as other cultural and environmental documents, revealed that a total of 11 cultural resource surveys, 7 archaeological sites, 3083 Historic Property Inventory forms, 6 historic register properties, and 5 cemeteries have been previously recorded within 1 mile of the Project area. Only one archaeological site was identified as being located within the Project area. A Monitoring and Inadvertent Discovery Plan was developed and followed for this Project (Breidenthal and Steinkraus 2021; Appendix A). Archaeological monitoring was conducted from June 28, 2021, to August 3, 2021. **No significant cultural resources were discovered during monitoring.**

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1 INTRODUCTION

1.1 PROJECT INFORMATION

Stell Environmental Enterprises, Inc. (Stell) was contracted by Anchor QEA to conduct cultural resource monitoring during the pre-design investigations (PDIs) Phase II sampling for the Lower Duwamish Waterway (LDW) Sediment Cleanup (the Project), located in King County, Washington (**Figure 1-1**) (see **Appendix A** for Monitoring and Inadvertent Discovery Plan). This Project is being conducted in support of the Remedial Design for the upper reach per the Fourth Amendment to the Administrative Order on Consent for the LDW (United States [U.S.] Environmental Protection Agency [EPA] 2018), in accordance with the EPA's November 2014 Record of Decision (ROD) (EPA 2014).

1.2 PROJECT LOCATION

The Project Area of Potential Effect (APE) is located on the upper reach of the LDW, from 3 to 5 miles upstream from the mouth of the Duwamish River (River Mile [RM] 3-5), in Sections 29, 30, 32, and 33 of Township 24 North, Range 4 East, and Section 4 of Township 23 North, Range 4 East, Willamette Meridian (**Figure 1-1** and **Figure 1-2**). The total acreage of the Lower Duwamish Project is 301.27 acres around the Duwamish River; this report is documenting the monitoring of discrete sampling areas within the Project APE (see **Appendix A**). The Project is located in King County, Washington.

1.3 PROJECT BACKGROUND

The LDW, located south of downtown Seattle, Washington, extends over the northern 5 miles of the Duwamish River to the southern tip of Harbor Island and includes upland sources of contamination as well as the waterway. The southernmost portion of the site is located in Tukwila, Washington. The LDW and adjacent upland areas have served as Seattle's major water-dependent industrial corridor since the LDW was created by widening and straightening much of the Duwamish River in the early 1900s. The Duwamish River flows north through Tukwila and Seattle, splitting at the southern end of Harbor Island to form the East and West Waterways, which discharge into Elliott Bay in Seattle, Washington.

The upper reach includes the area between the mean higher high water (MHHW) elevation on banks on either side of the LDW. The upland area above the MHHW on either bank is not part of the upper reach. The upper reach of the LDW extends from the area around the Norfolk Combined Sewer-Overflow/Storm Drain at the southern end of the LDW (RM 5) to Duwamish Waterway Park (RM 3) and includes the Upper Turning Basin at RM 4.6 (**Figure 1-2**). The portion of the upper reach downstream of the Upper Turning Basin is maintained as a federal navigation channel by the U.S. Army Corps of Engineers (USACE). In this reach, the authorized navigation channel width is 150 feet and depth is -15 feet mean lower low water (MLLW). The upper reach includes approximately 130 acres of intertidal and subtidal habitat. The average width of the LDW is 440 feet. Comprehensive descriptions of the LDW environmental and physical site characteristics are presented in the LDW Remedial Investigation Report (Windward 2010), Feasibility Study (AECOM 2012), and ROD (EPA 2014).

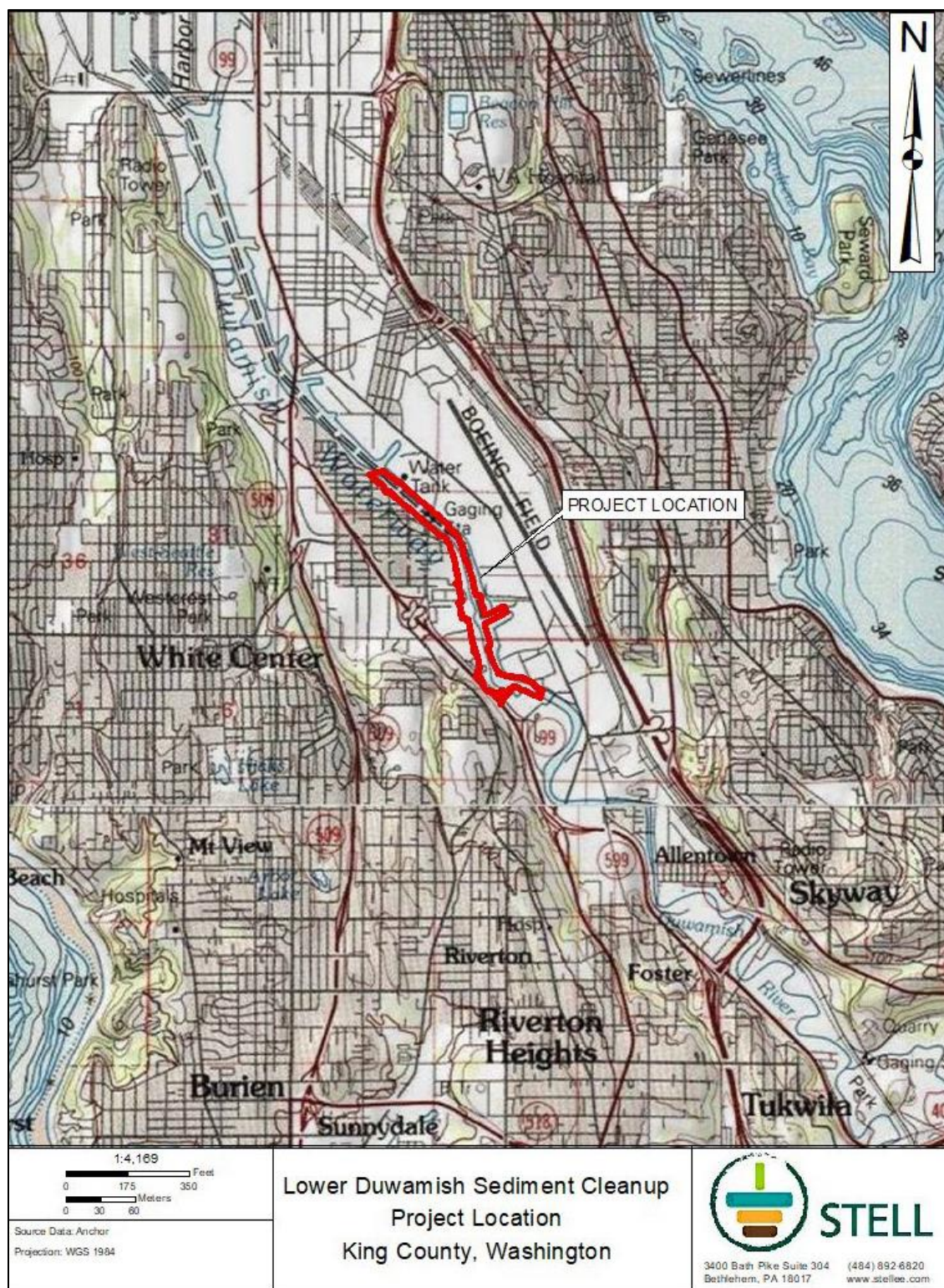


Figure 1-1. Project area location map projected on the United States Geological Survey (USGS 2019) topographic quadrangle.

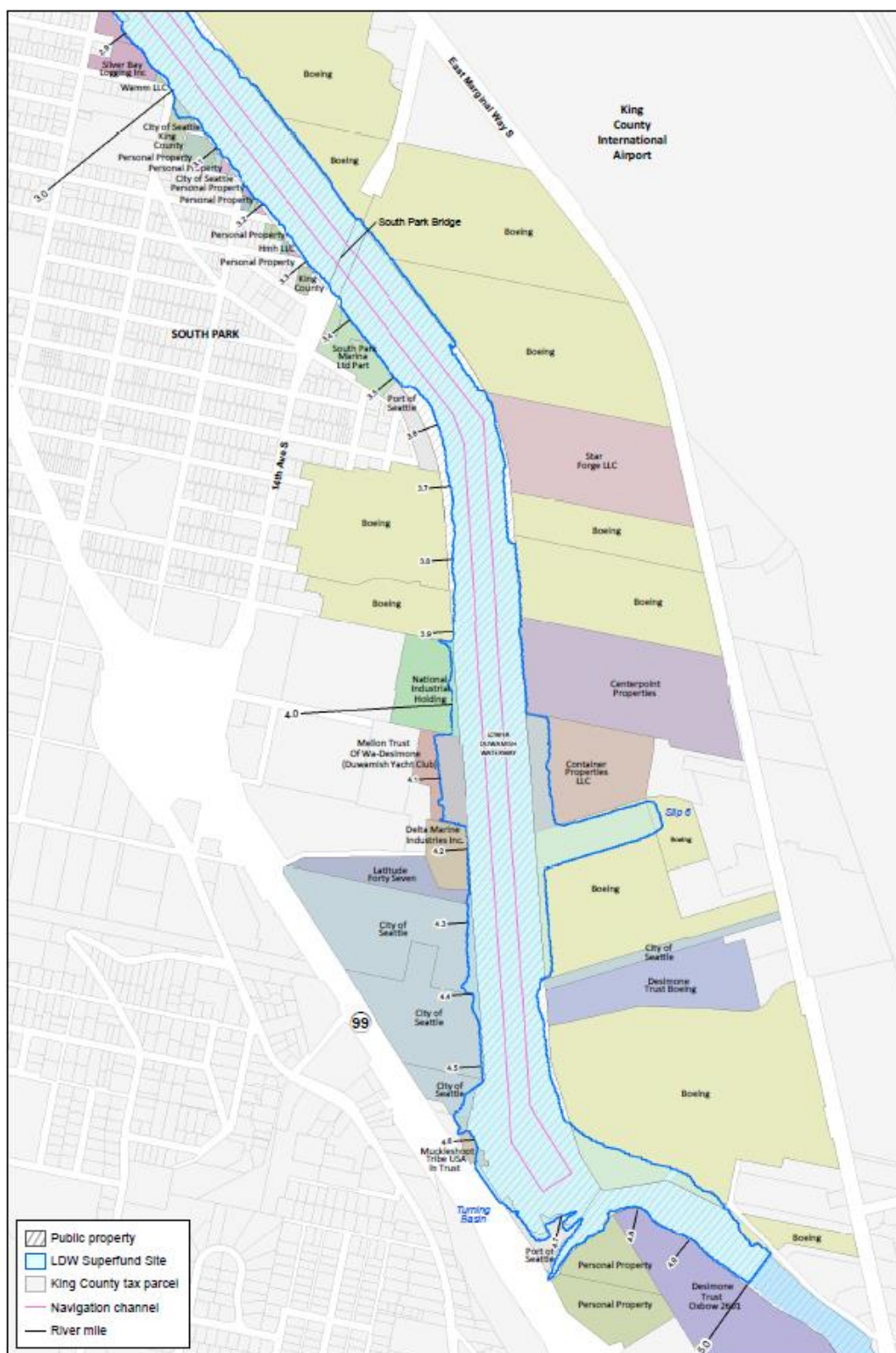


Figure 1-2. Property ownership map within the LDW Superfund APE boundary.

1.4 REGULATORY ENVIRONMENT

The EPA, Region 10, is the lead agency responsible for this Project under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The LDW (the Site) was listed on the National Priorities List on September 13, 2001. The EPA identification number for the Site is WA00002329803. EPA and Ecology have divided lead agency responsibility for addressing the Site: EPA has the lead for the in-waterway portion, and Ecology has the lead for upland source control. As a federal undertaking being implemented pursuant to CERCLA, this Project is subject to the substantive requirements of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) and its implementing regulations, 36 Code of Federal Regulations (CFR) 800, regarding the protection of cultural and historic resources. The substantive requirements of Section 106 of the NHPA require the lead federal agency to take into account the effects of the undertaking on historic properties.

The term “historic property” is defined in the NHPA as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register” Advisory Council on Historic Preservation (2021). Historic properties include any artifacts, records, and remains that are related to such a district, site, building, structure, or object (16 United States Code [USC] 470[5]).

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association. They:

- a) are associated with events that have made a contribution to the broad pattern of our history;
- b) are associated with the lives of people significant in our past;
- c) embody the distinct characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- d) have yielded, or are likely to yield, information important for understanding prehistory or history (36 CFR 60.4).

For federal projects, significance is evaluated in terms of eligibility for listing in the National Register of Historic Places (NRHP). Within the state of Washington, the NRHP program is administered by the Washington Department of Archaeology and Historic Preservation (DAHP) under the direction of the State Historic Preservation Officer. The EPA, as the lead agency, is responsible for tribal consultation and coordination.

2 ENVIRONMENT AND CULTURAL SETTING

This section describes the environmental context of the Project area. Elements of the environmental context include geology, soils, plants, and animal habitats. Knowledge of the geologic processes associated with the landforms in this area can assist in locating archaeological resources. Geographic features, such as shorelines, rivers, lakes, and terraces, are often correlated with the archaeological record. Throughout prehistory, these locations provided an abundance of plant resources and fish and often attracted terrestrial animals, as well. As a result, sites tend to be found at locations along shorelines, within active floodplains, or along associated terraces. The depth of soils and potential for buried deposits can be derived from soil surveys and geomorphologic descriptions of the landscape. Understanding the extent of native plant and ecological habitats provides a context for interpreting archaeological sites and activity locations.

2.1 ENVIRONMENTAL CONTEXT

Environmental data for the Project area was gathered from geologic and soils maps and reports of recent geological and geomorphological investigations describing subsurface conditions and the post-depositional processes that may have impacted the Project area's cultural deposits.

2.1.1 PHYSIOGRAPHIC PROVINCE

The Project is located within the Puget Sound Area of the western hemlock (*Tsuga heterophylla*) vegetation zone within the Puget-Willamette Lowland physiographic province (Franklin and Dyrness 1988). The Western Hemlock Zone is the most extensive vegetation zone in western Washington and Oregon (Franklin and Dyrness 1988). It extends from British Columbia through the Olympic Peninsula, Coast Ranges, Puget Trough, and both Cascade physiographic provinces in western Washington (Franklin and Dyrness 1988). Major forest tree species in this zone are Douglas-fir (*Pseudotsuga menziesii*), western hemlock, and western red cedar (*Thuja plicata*). Less common conifers include grand fir (*Abies grandis*), Sitka spruce (*Picea sitchensis*), and western white pine (*Pinus monticola*). Both western white pine and lodgepole pine (*Pinus contorta*) are common on glacial drift in the Puget Sound area. The Project area presently contains standing structures, asphalt, and manicured garden areas and lawns.

2.1.2 GEOMORPHOLOGY

The Project area is in the southern Puget Lowlands. The Puget Lowlands are a north-south-trending geological and physiographic province bordered by the Cascade Mountains on the east and the Olympic Mountains on the west (Franklin and Dyrness 1988; Troost and Stein 1995). It was shaped by at least four periods of extensive glaciation during the Pleistocene epoch (Easterbrook 2003; Lasmanis 1991). The bedrock was depressed and deeply scoured by glaciers, and sediments were deposited and often reworked as the glaciers advanced and retreated. This can be seen in the overall rolling, low-relief topography of the area that is deeply incised by large troughs/ravines. The elevation of the area is generally within 500 feet above mean sea level (Troost and Stein 1995). The scoured troughs left by the glaciers are currently occupied by the Puget Sound and freshwater lakes, such as Lake Washington and Lake Sammamish (Galster and Laprade 1991; Liesch et al. 1963; Yount et al. 1993).

A mantle of glacial drift and outwash deposits were left across much of the Puget Lowland at the end of the Fraser Glaciation (the last of the four glacial periods) (Booth et al. 2003; Easterbrook 2003). The Vashon Stade of the Fraser Glaciation began around 18,000 years before present (BP) with an advance of the Cordilleran Ice Sheet into the lowlands (Porter and Swanson 1998). The

Puget Lobe rapidly advanced into the Puget Lowland and reached its maximum extent near what is now the town of Centralia by about 15,000 BP. The glacier remained this way for approximately 1,000 years until the ice began to retreat. The retreating Puget Lobe reached Seattle by about 13,600 BP (Borden and Troost 2001; Porter and Swanson 1998). The Puget Lobe was thicker towards the north and thinned towards its terminus in the south.

2.1.3 PALEOECOLOGY

Pollen samples collected through lake and wetland coring throughout the Puget Sound area suggest that paleoecology varied greatly over time (Tsukada 1982; Whitlock 1992). Lodgepole pine, bracken fern (*Pteridium aquilinum*), and red alder (*Alnus rubra*) were the first to populate the landscape after the glaciers receded. These were followed by Douglas-fir a few centuries later (Barnosky 1985).

At the beginning of the Holocene (10,000 BP–present), the climate continued to warm, and grasslands, as well as oak (*Quercus* sp.) and hazel (*Corylus* sp.) woodlands, established themselves on the landscape. Between 10,000 and 5000 BP, Douglas-fir became the dominant tree species in the area. At this time, precipitation became more seasonal, and summers saw increased levels of droughts, which increased fire frequency and expanded prairies. Cedar (*Thuja* sp.) and Hemlock (*Tsuga* sp.) populations increased between 7000 and 5000 BP, as canopy forests dominated the landscape and weather conditions became cool and moist (Tsukada 1982; Whitlock 1992). The climate since this time has remained fairly stable with small fluctuations between warmer/drier and cooler/moister conditions (Leopold et al. 1982).

2.1.4 SOILS

The soils within the Project area, as defined by the U.S. Department of Agriculture (USDA) soil survey, are composed of Urban land and Water. The Urban Land comprises all the soils surrounding the Project area. No subsurface characteristics are defined for these soils (USDA Web Soil Survey 2021).

2.2 CULTURAL CONTEXT

This section describes the cultural context of the Project area, which will inform the evaluation of findings from any future field investigations performed as part of this Project. Elements of the cultural context include cultural chronologies developed for the precontact occupation through archaeological research, information derived from oral histories, and documented historic events and land use patterns. Reviewing archival archaeological, historical, and ethnographic documents provides insight toward developing hypotheses and a research design. The completion of this section included reviewing information from the DAHP, the Washington State Archives, Government Land Office (GLO) records, King County records, University of Washington Libraries, and multiple historic imagery sources.

2.2.1 ARCHAEOLOGICAL CONTEXT

The first human occupation of western Washington may date back about 14,000 BP, as evidenced at the Manis Mastodon site in Sequim, where a bone point and the spirally fractured bones of a mastodon indicate human hunting and butchering (Gustafson et al. 1979; Waters et al. 2011). Artifacts of the Clovis period, which began between 13,500 and 13,000 BP elsewhere in North America, have been found in isolated locales in southern and central Puget Sound, but no occupation sites of this period have yet been found in Washington. The Richey Roberts site, a cache of Clovis blades, is the sole in-situ discovery of Clovis archaeology in Washington (Gramly

1991; Mehringer 1985). Several similar early sites that are coeval and possibly predating Clovis in the region are presented in recent literature (Huckleberry et al. 2003). This early culture is generally believed to have relied heavily on big game for subsistence; although there is evidence, they also relied on plants and smaller animals (Cannon and Meltzer 2004).

As early as 9000 BP, as the climate stabilized, cultural complexes with distinct lithic technological assemblages emerged in the region (Carlson 1990; Fladmark 1979). These assemblages demonstrate a “foraging” economy based on generalized resource procurement for immediate consumption and high-residential group mobility (Ames 1981; Binford 1978). One of these distinct technologies is named the Old Cordilleran Tradition (Butler 1961). In western Washington, manifestations of the Old Cordilleran Tradition are recognized by unifacial pebble and cobble tools and chopper-like cores (Butler 1961).

Other contemporary technologies include the Northwest Coast Microblade Tradition, which is identified by a rather diverse assemblage that includes microblade and microblade cores, leaf-shaped bifaces, and bifacial cores (Borden 1975; Fladmark 1979). The variety of technologies found in the archaeological record suggests the establishment of multiple well-defined cultural groups populating the Northwest Coast vicinity early on in prehistory. The post-Clovis prehistory of Western Washington is commonly divided into three cultural periods—Early, Middle, and Late—defined by a series of technological characteristics found at archaeological sites.

2.2.1.1 Early Period

The Early Period, which lasted from approximately 12,000 to 7000 BP, is classified archaeologically by the Old Cordilleran Tradition (Matson and Coupland 1995), with regional manifestations defined as the Olcott Complex in the Puget Sound and the western Cascade Range regions and the Cascade Phase east of the Cascade Range. Sites of this period in western Washington typically occur on high marine and river terraces, sometimes at significant distances from modern watercourses; they consist of concentrations of cobble cores; flakes; large, ovate knives; and broad-stemmed and leaf-shaped projectile points (Wessen 1990). These people are thought to have relied more on inland hunting than on fishing and shellfish procurement for subsistence, although finds along the British Columbia coast indicate aquatic resources were sometimes important (Blukis-Onat 1987).

2.2.1.2 Middle Period

The Middle Period, lasting from 7000 to 4500 BP, incorporates a continuation of the Old Cordilleran Tradition and the emergence of a distinct Northwest Coastal culture; however, few sites in Washington can be attributed to this time interval (Morgan 1999; Blukis-Onat et al. 2001). Toward the end of this period, as sea levels stabilized, the focus of subsistence activity seems to have changed from reliance on terrestrial to marine resources; most sites appear along the coasts or major river systems. It is thought that this adaptation may have occurred earlier in the Gulf of Georgia and Fraser Valley regions of Canada (Stein 2000).

Archaeological sites associated with this cultural period are found to be technologically more complex and more diverse. They often include tools and ornaments of bone and antler, along with flaked stone. In the Puget Sound and western Washington, the Middle period is a transitional time represented archaeologically by a shift toward marine resource utilization (Morgan 1999).

2.2.1.3 Late Period

Human lifeways changed radically in the Late Period (4500 to 250 BP), as people focused even more strongly on marine resources; during this time period, the number and diversity of sites markedly increased (Matson and Coupland 1995). People maintained permanent villages on the coast and along the lower reaches of inland rivers. They used these as home bases and storage warehouses for fish, shellfish, game, and plant foods systematically amassed during the warm seasons (Matson and Coupland 1995). Cemeteries and petroglyph sites are often associated with significant places, such as villages and seasonal habitation areas; petroglyphs also occur occasionally in higher montane settings. Blazed cedars, stripped of bark for basketry or with planks removed from their living trunks, can still be found throughout the region. Seasonal habitation areas and task-specific locations have been documented in the lowlands and up into the subalpine zone of the mountains. Still, they usually remain close to larger, permanent sources of water. These places typically are concentrated along trade routes that linked communities living on both sides of the Cascade Mountains.

2.2.2 ETHNOGRAPHIC BACKGROUND

Prior to the arrival of Europeans, the Northwest coast was one of the most densely populated nonagricultural areas in the world. Between the mid-1700s and late 1800s, numerous outbreaks of infectious diseases, including smallpox and measles, decimated the population of the Northwest coast (Boyd 1990). Despite the massive reduction of the local population, when the first Euroamerican settlers arrived at Alki Point in 1851, at least 17 Duwamish villages, including over 90 longhouses, were present along Elliott Bay and local river systems (Duwamish Tribe 2008).

The Project area was primarily utilized by the Duwamish people. Neighboring groups, including members of what are now the Suquamish, Puyallup, and Yakima Tribes, also traditionally utilized this region. The Duwamish Tribe is a Southern Coast Salish group who speak the southern dialect of the Lushootseed language (Suttles and Lane 1990). Duwamish, or *Dkhw' Duw'Absh* in the Lushootseed language, means “the people of the inside.” The name refers to Elliott Bay, the Duwamish River, and the other waterways that connect the people to the land. Upon the arrival of the first European explorers, the Duwamish people occupied at least 17 winter villages, living in over 90 longhouses throughout the Duwamish River basin and surrounding landscape (Speer 2004). Winter villages were the nexus of natural resources, political power, and ideological systems. Each of these winter villages, including nearby seasonal habitation areas and spiritual places, were linked to the broader geographic community through kinship, trade, and diplomacy (Thrush 2007). Indigenous peoples in the area hunted deer, elk, and bear across the land, and ducks, geese, and other waterfowl from the estuarine environment. They fished for salmon, cod, halibut; harvested clams, gathered berries, camas, and other plants for food and medicine.

Although some of these places have undergone complete transformation with the industrial development of the Duwamish River watershed in the twentieth century, these locations and resources remain important to the Duwamish people and are significant in the understanding of the development of Seattle. The area surrounding the Lower Duwamish Superfund Project area still holds significance for the Duwamish people. The following place names are from Thomas T. Waterman's ethnographic book *Puget Sound Geography* (2001). One such place is *Lwalb*, which means “abandoned” (Waterman 2001:120). *Lwalb* refers to an abandoned river channel on the southwestern side of the Duwamish. Another place name is *T^s a'Lt^aLusid* or “where there is something overhead across the path” (Waterman 2001:120). This place was on the western side of the river, which now is filled in. *hÚtesa'tci* or “cut in two with reference to the hand” has a

malevolent connotation with the Duwamish people (Waterman 2001:120–121). As Waterman retells the legend, an evil supernatural being's mangled hand rose from the water. Waterman is unsure where exactly this spot is located along the Duwamish.

The closest Duwamish villages located to the Project area are *Tuqwe'LtId* or “a large open space” (Waterman 2001:45, 121). There is some debate where the village of *Tuqwe'LtId* was located, but it is accepted it was located near the South Park Bridge (Berger and Hartmann 2013:5; Blukis-Onat et al. 2008:21). “A brace supporting a rafter” or *TEtc'gwEs* is for an area where trees fell over a trail, possibly caused by a landslide, on the northern side of the Duwamish River (Waterman 2001:121). This place is now somewhere underneath the King County International Airport.

The area where the Duwamish River narrowed and made a sharp turn was called *cka'lapsEb* or “neck” (Waterman 2001:121). This area was once a place the Duwamish people could collect lily bulbs (Waterman ca. 1920, 2001:121). *Hwa'pitclD* means “where one throws something,” for this area was wide and flat near an old river channel (Waterman 2001:121). *Qiyawa'lapsEd* or “eel's throat” is a place name for three knolls situated on the western side of the Duwamish River, which is in the South Park neighborhood (Waterman 2001:121). *Xo'bxobti*, or “canoe paddles,” is where the Duwamish people harvested ash trees to make paddles (Waterman ca. 1920, 2001:121). This area is described as a flat in a bend of the river on the eastern side of the Duwamish River. The last placename is *tsitskad'b*, which refers to a small promontory that stuck out in the river (Waterman 2001:121). This could refer to Turn Basin Number 3.

Another Duwamish village *sqa'l-qo* or “meeting of rivers” was approximately 3 miles upstream from the Project area (Berger and Hartmann 2013:5; Waterman 2001:45). This village was located near where the Black and White rivers met. Waterman claimed there were additional villages near the Duwamish River, but the names were not known to him (Berger and Hartmann 2013:5; Waterman 2001:45).

Once non-native settlers moved into this area, the Duwamish people were pushed out of their traditional lands after the 1855 Treaty of Point Elliott. The Sackman and Dewatto Duwamish communities chose to stay within the area and formed new communities with other tribes in the area (Tollefson 1992:214–216). These communities were forced to live outside of the city of Seattle. They were able to retain some of their seasonal gathering, hunting, and fishing traditions that helped supplement their diet (Tollefson 1992:214–216).

2.2.3 HISTORIC BACKGROUND

Following the arrival of non-Native settlers in the Pacific Northwest (by the mid-1850s), many Native village/habitation sites were subsequently homesteaded or platted as towns. This was especially true for locations near water, at river confluences, or along traditionally utilized travel corridors/trails, many of which were in use into the historical period, if not into modern times. Extensive logging and mining activity took place throughout the region from the mid-1800s to the present. The construction and expansion of transportation corridors associated with railroads and roadways had a profound effect on the landscape in this area (Marino 1990).

2.2.3.1 History of King County

The first Euroamerican explorers to visit King County were Colonel Isaac Ebey and, later, John Holgate. European settlement of the area started in 1852, with lumber, hops, coal, and fish constituting the area's first industries (Long 2006). King County was formed on December 22, 1852, by the Oregon Territorial Legislature and, 3 months later (in 1853), was included in the newly created Washington Territory. The county was originally named for William Rufus DeVane

King, a senator from Alabama who was elected as the U.S. vice president in 1853 and died shortly after the election. In 1986, this was officially changed to honor the Rev. Dr. Martin Luther King Jr. (Long 2006).

The first settlers of King County were a group of farmers led by Luther Collins who claimed land inland along the Duwamish River on September 14, 1851 (later called Georgetown). A week after the Collins party claimed their land, the initial vanguard of the Denny Party (the group credited with the founding of Seattle) arrived on Alki Point (near what is now West Seattle). The rest of the Denny Party arrived on November 13, 1851 (Long 2006).

The major industries in King County in the late 1800s were logging and coal mining. By the 1880s, sawmills and shingle mills were main industries in many towns throughout the Puget Sound (Long 2006). Throughout this decade, hops were a major King County crop until hop lice/aphid infestations that started in 1889 prompted growers to turn to dairy farming, orchards, and other crops (Bagley 1929; Long 2006). Native Americans provided much of the labor for harvests in King County. The hop lice crisis was exacerbated by a national economic depression in the 1890s. Overall, King County recovered quickly due to the 1897 Klondike Gold Rush, during which Seattle and King County merchants provided supplies to those headed north to the goldfields (Long 2006).

2.2.3.2 History of the Project Area

Seattle's earliest non-native settlers first arrived in the Puget Sound via canoes floating down the Duwamish River from Nisqually. They were the Collins Party and settled along the Duwamish River in late September 1851, about 2 miles south of the mouth of the Duwamish River. Eventually, Luther Collins filed for a Donation Land Claim. Other parties of settlers were quick to join the Collins Party in acquiring lands around Elliott Bay. These included John Holgate, William Latimer, the Denny Party, and others (Lange 2000). The Duwamish River was a river that meandered in curves through the valley floor and eventually discharged into the southern end of Elliott Bay through a delta of intertidal marshlands (**Figure 2-1**).

At high water and plus tides, much of the surrounding land was submerged. Seattle was incorporated on December 2, 1869, and by the 1890s, the population was well established, and maritime traffic became a common site on Elliott Bay. Steamboats could navigate the Duwamish River as far as Kent, but ocean-going vessels could not use the river. Eugene Semple, in 1895, proposed a plan of public works, which included digging a canal from Elliott Bay to Lake Washington, filling the tide flats west of Beacon Hill (**Figure 2-2**), and straightening the Duwamish River. The Washington State Legislature authorized the formation of diking and dredging districts in that same year. By 1901, Semple began construction, sluicing the soils of Beacon Hill and transporting soil from Seattle regrade projects for filling the tide flats south of downtown Seattle.

In 1909, City Engineer R. H. Thomson formed the Duwamish Waterway Commission to sell bonds for rechanneling the river. The straightening and dredging of the Duwamish River began on October 14, 1913 (Wilma 2001) (**Figure 2-3**). The channel would allow larger ships to access the reclaimed land and would also alleviate the flooding that frequently occurred throughout the valley.



Figure 2-1. East Marginal Way, view to the southwest. Dated: February 24, 1916 (Source: Seattle Municipal Archive Photograph Collection # 941).



Figure 2-2. Historic photograph of the Seattle tidelands looking southeast. Taken from Centennial Mill in 1902 (University of Washington digital archives, Asahel Curtis Photo Company Photographs Collection, # CUR118)



Figure 2-3. Map showing route of Duwamish Waterway, Commercial Waterway, Commercial Waterway District No. 1, revised September 1, 1919 (King County Road Services Map Vault Image No. 20100824-17370)

Dredging began at the County Poor Farm in Georgetown, subsequently filling the meanders, except for a few recessed in the channel to accommodate high water levels and turning ships. By 1920, the Duwamish Waterway reached a depth of 50 feet for 4.5 miles (Wilma 2001). All of the original meanders were filled except for one—a short section of the original course of the Duwamish delta channels, which is still present along the southwestern shore of Kellogg Island (Thrush 2007).

It is known that dredge spoils were used for the creation of Harbor Island, which was finished in 1909 by the Puget Sound Bridge and Dredging Company. At the time, Harbor Island was the largest artificial island in the world. Soil from the Beacon Hill, Denny Hill, Yesler Hill, Jackson Hill, and Dearborne Street regrades were used in the construction of Harbor Island, in addition to the filling of the greater Duwamish delta tidelands (Stein and Goodman 2001; Wilma 2001).

By 1920, the indigenous people, who traditionally utilized resources from the Duwamish River, could no longer safely gather food from that area (Thrush 2006:110). The channelization of the Duwamish River was complete and industrial factories were established along its banks. The 1949 USGS Seattle, South Quadrangle 7.5-minute series shows structures of all sizes, up and down the Duwamish River.

2.2.3.3 Project Area Background

The Project area is first seen in an 1862 GLO Cadastral survey map (GLO 1862) (**Figure 2-4**). This map shows the APE prior to any channeling of the river, with the APE being present over multiple bends in the river.

A 1907 Anderson map shows the Duwamish River still following a natural channel but with multiple landowners occupying the surrounding area (**Figure 2-5**). The largest landowner within the APE is a Mr. John Buckley. Around this time in the 1910 Census, six different John Buckley's lived within King County, most of which were born outside of Washington. There are many other properties in this area owned by a variety of individuals, including a Mr. Sam Sloam. (b) (6)

No additional information of note could be located for the individuals identified in this 1907 map using Washington State Archive records.

A 1912 Kroll map shows the Duwamish River remaining in its natural channel; however, work appears to have begun on the channeling of the river into the Duwamish Canal (Kroll 1912) (**Figure 2-6**). Many of the landowners changed in this period. The large property owned by Mr. John Buckley is no longer present; instead, much of this area had been divided up. Landowners visible on the map are Sam Sloam, Dan Shea, J & M Realty and Mining Company, and M. J. Carkeek. The most notable of these names is Morgan J. Carkeek (**Figure 2-7**), who was a stonemason and building contractor. Mr. Carkeek was responsible for the construction of several of Seattle's early stone buildings (Museum of History and Industry [MOHAI] 2021). These buildings include the Dexter Horton Bank, Burke Building, and Haller Building. Morgan J. Carkeek donated land for a city park on Pontiac Bay on Lake Washington at Sand Point; this park was displaced in 1926 by the Sand Point Naval Air Station. A new Carkeek Park was established in Piper's Canyon. This map also shows the city limits of South Park, as well as roadways and railroads around the APE.



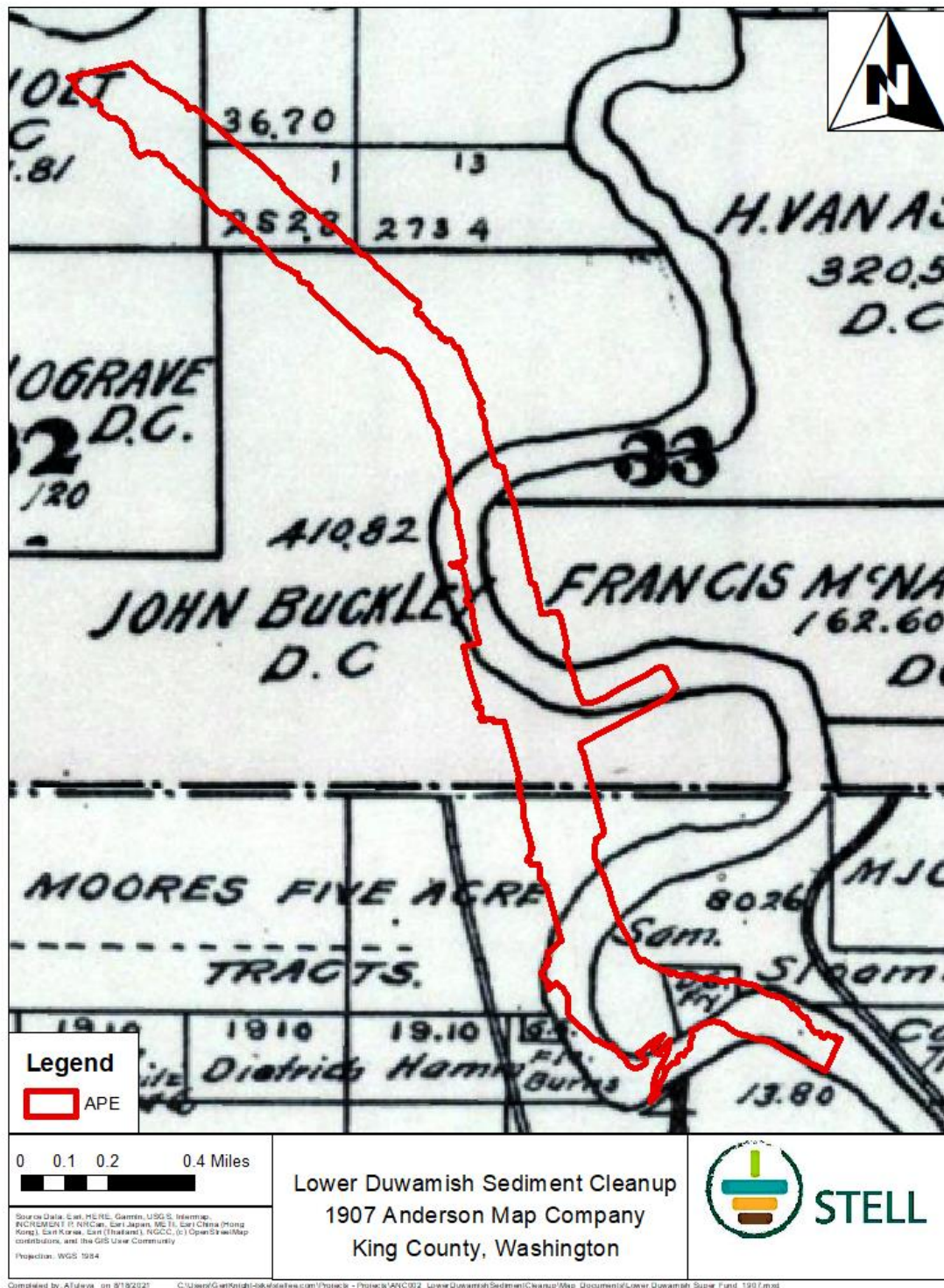


Figure 2-5. 1907 Anderson Map with APE overlayed (Anderson 1907)





Figure 2-7. Photo of Morgan J. Carkeek taken circa 1910 by Edward S. Curtis (MOHAI 2021)

A 1926 Kroll map shows the Duwamish River as being fully canaled and removed from its original channel (**Figure 2-8**). Many landowners on the 1926 map remain consistent with the 1912 map; however, many parcels were further divided amongst landowners. Large tracts of land were still listed as The Meadows and Moore's 5 Acre Tracts. The city limits of South Park were expanded from the 1912 map.

The 1936 Metsker map shows a landscape that is similar to what is seen today around the APE with the Duwamish River in its current orientation and many of the roads seen today (**Figure 2-9**). To the east of the APE, Boeing Field was present at this time. Many of the large parcels that had been previously noted are no longer located in this map with many smaller parcels having taken their place. A parcel along the east bank of the river was listed as being owned by the Fisher Body Company, Fisher Body was an automobile coachbuilder that was founded in Detroit in 1908 (Jackson 2021). The Fisher Body Company had a Seattle Division that was leased to the Boeing Company. Additional parcels are listed as being owned by multiple lumber companies, the Newell-Bissell Lumber Company. This company was formed when the Newell Mill & Lumber Company changed its name in 1917 (Lumber World Review 1917)

The 1937 aerial imagery shows the development of South Park to the west of the river. More open large tracts of land to the east of the river were noted in these images (**Figure 2-10**). To the east of the Duwamish River, it appears as though East Marginal Way and railroad lines are present in their modern layout. The 1955 Thomas Brothers map (**Figure 2-11**) shows a similar layout to earlier maps, except with the noted changes on the east side of the Duwamish River with the Boeing Plant dominating much of the landscape and the municipal airport present.



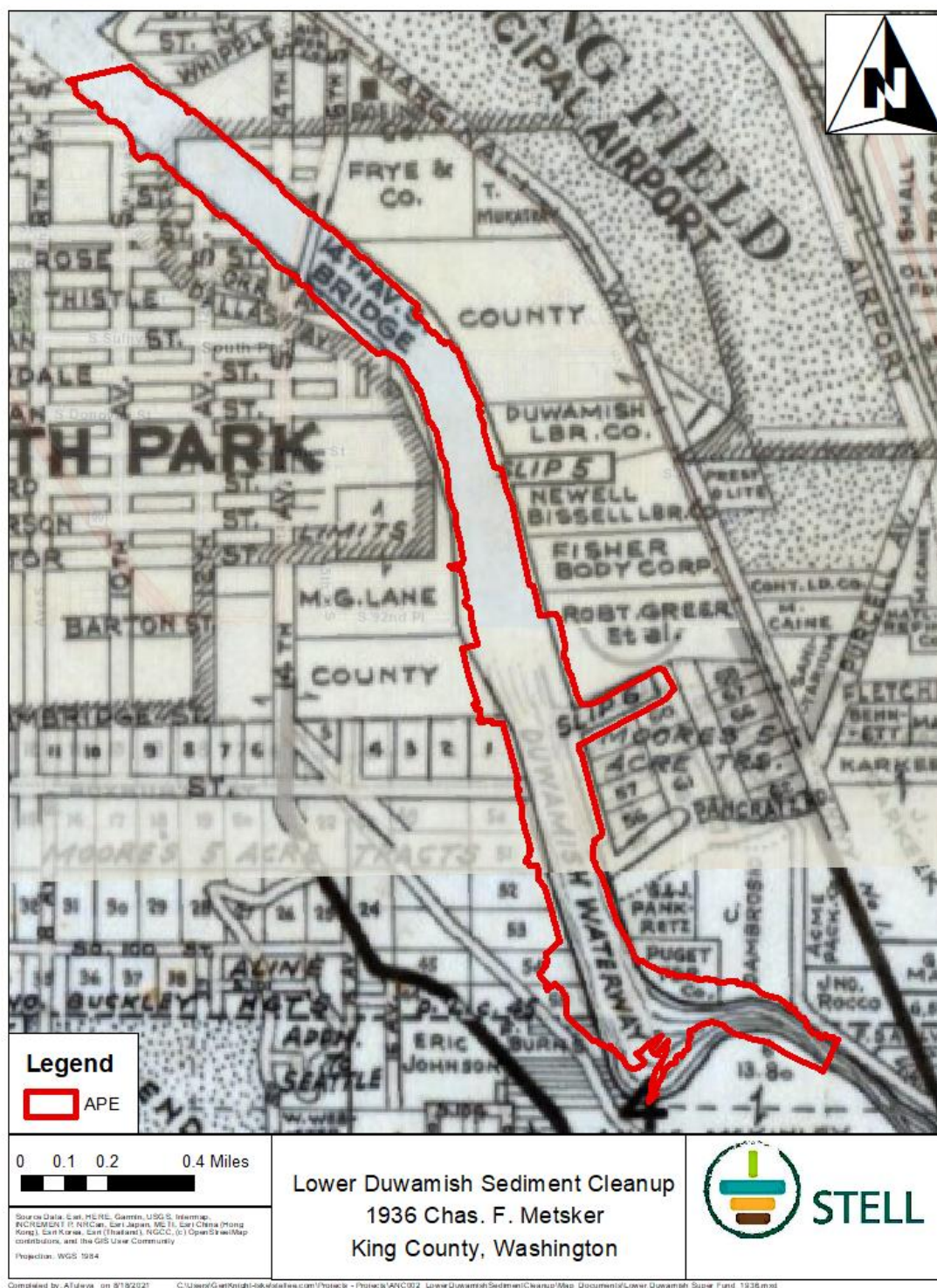
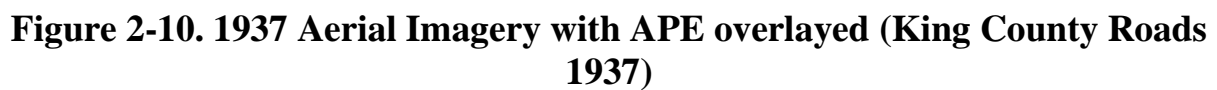


Figure 2-9. 1936 Metsker Map with APE Overlayed (Metsker 1936)





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3 RECORD SEARCH AND LITERATURE REVIEW

Stell conducted a literature review and record search for this Project by consulting the DAHP Washington Information System for Architectural and Archaeological Records Database (WISAARD), reviewing historic land records and maps, and online archives.

3.1 PROJECT BACKGROUND

The DAHP Predictive Model places the Project area as very high risk for locating cultural materials. This model is based primarily upon distance to water and soil types. No previous archaeological work has occurred within the Project area.

3.2 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

3.2.1 PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 1 MILES OF THE PROJECT AREA

Thirty-nine archaeological investigations have occurred within 1 mile of the APE. Eleven of those investigations occurred immediately adjacent or within the APE. The earliest investigation occurred in 2001 by Kurt Roedel for the South Park Bridge Project. No significant archaeological resources were identified during excavation monitoring (Roedel 2001). In 2004, Historical Research Associates indicated there was a moderate potential for archaeological resources on either side of the South Park Bridge. They identified 12 NRHP-eligible structures (Historical Research Associates 2004).

Astrida Blukis-Onat returned in 2008 and documented three prehistoric archaeological sites along the western bank of the Duwamish River (Blukis-Onat et al. 2008). The sites, 45KI815, 45KI816, and 45KI817, were determined to be (b)(3) (Blukis-Onat et al. 2008). These (b)(3) were determined to reside in an old meander of the Duwamish River. Site 45KI815 (b)(3) The 45KI815 (b)(3) centimeters (cm) below surface at (b)(3) (Blukis-Onat et al. 2008).

Jennifer Gilpin monitored work in 2006 along Slip 6 and observed a possible historic trash dump. It was determined the historic trash dump was in a disturbed context and held no archaeological integrity (Gilpin 2006). It was determined that no additional archaeological investigation was necessary.

In 2013, two surveys occurred along the Lower Duwamish River. Margaret Berger surveyed the Duwamish Substation North Property located between Highway 99 and the Duwamish River (Berger and Hartmann 2013). Berger observed no above-ground cultural resources were identified. Part of the Seattle City Light Duwamish Substation is within the LDW Superfund boundary. Downstream from Berger's survey, Jason Cooper monitored sediment removal along the eastern bank of the Duwamish River at Township (b) Range, Section (b) on (b)(3) property (Cooper 2013). During the monitoring process, Mr. Cooper observed a wooden wagon wheel being dredged up. The area where the wagon wheel was recovered was given a site number, 45KI1142 (Cooper 2013).

In 2014, archaeologists monitored hydraulic work that was located between Michigan Ave and 8th Avenue in the South Park neighborhood (Lockwood and Hoyt 2014:1–8). One site was recorded during their work, 45KI1183. It was determined to be an isolated find consisting of bricks, whiteware, and charcoal (Lockwood and Hoyt 2014:3–7). This area was once within the

Duwamish River. Later that year, another monitored survey was conducted by Jaqueline Marcotte monitoring the infrastructure improvement efforts along South Portland Street and 8th Avenue South Street (Marcotte and Johnson 2015). No intact buried archaeological deposits were recorded, and the project area was outside of the Lower Duwamish Superfund boundary. Carol Schultze monitored the South Park Bridge replacement project in 2014. Schultze extended the site boundary for 45KI815, the (b)(3) that was identified in 2008 (Schultze et al. 2014). 45KI815 sites (b)(3) (b)(3) the Duwamish River. A geoarchaeological boring survey was conducted north of the APE at the 8th Avenue Terminals. No archaeological material was recovered, but it was recommended that deep excavations take place to understand the soil morphology of the river and to identify any cultural deposits (Hodges 2015).

The last survey that occurred within the Lower Duwamish Superfund APE happened in 2017. Jana Boersema resurveyed a portion of the Duwamish Substation North Property for the Technical Training Center and wetland mitigation (Boersema and Cagle 2017:i). No precontact or significant cultural material was identified within the Duwamish APE.

Within 1 mile of the APE, there are 11 cultural resource surveys, 7 archaeological sites, 5 cemeteries, 6 registered historic properties, and 3083 structures.

For additional information, please see **Table 3-1**,

Table 3-2, Table 3-3, and Table 3-4.

Table 3-1. Previous cultural resources investigations within 1 mile of the APE.

Author(s)	Date	NADB No.	Title	Distance from Current Project	Findings Relevant to the Current Project
Cooper, Jason	9/5/2013	1683973	Archaeological Monitoring Program Synopsis Construction Season 1: Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project	Within APE: along banks of Duwamish River Township (b) , Range () Section (b)	No archaeological material was identified; isolate: one historic object (45KI1142) was recorded.
Historical Research Associates	8/1/2004	1344408	South Park Bridge Project Cultural and Historical Resources Technical Report	Within APE: river and bank on western and eastern sides of the Duwamish River, including the bridge	Moderate potential for the presence of intact subsurface archaeological resources. No archaeological sites have been previously recorded in the project area. 80 historic resources; South Park Bridge is listed on NRHP; 12 others are NRHP eligible, of those, 2 are located along the Duwamish (Boeing Property and Red Brick Road are potentially eligible).
Lockwood, Chris	4/17/2014	1691098	Archaeological Monitoring of South Park Hydrological Investigations, GSI Project - West Michigan and 8th Avenue, King County, Washington	Adjacent to the APE, west of Duwamish River.	South Park Basin is considered to have a (b)(3) . Isolate 45-KI-1183 (b)(3) . The isolate is in an area that was formally a meander of the Duwamish River.
Blukis-Onat, Astrida R.	6/1/2008	1351645	Cultural Resources Survey for the South Park Bridge Project	Within APE to either side of Duwamish	(b)(3)

Author(s)	Date	NADB No.	Title	Distance from Current Project	Findings Relevant to the Current Project
				River and including South Park Bridge	southern side of the Duwamish waterway: 45KI815, 45KI816, and 45KI817. One site is within the APE and two are outside of the APE. It is likely they are connected to the abandoned meander channel. Three Historic Properties within the APE: Boeing Building, Brick Road, and South Park Bridge.
Schultze, Carol	3/31/2015	1686020	Archaeological Monitoring Report for the South Park Bridge Replacement Project	Approximately 75 m to the south of the Duwamish Riverbanks	45KI815: during monitoring, 8 additional locations associate with site extended the site boundary. New boundaries identified.
Roedel, Kurt W.	6/6/2001	1339904	Letter to Ronda Smith Regarding Archaeological Resources Monitoring for the South Park Bridge Project	Along the southern edge of Duwamish Riverbank	No significant archaeological resources were identified during excavation monitoring.
Gilpin, Jennifer	10/5/2006	1348322	Archaeological Monitoring at 9229 E. Marginal Way, Tukwila	22 m north of the northern edge of the Duwamish Riverbank on the finger along Slip 6	No sites recorded, a pocket of historic artifacts including ceramics and glass was observed as likely remnants of a historic trash dump with no identifiable integrity.
Berger, Margaret	4/8/2013	1691049	Cultural Resources Assessment of the Duwamish Substation North Property	Project is bounded on the east by the Duwamish waterway	No above-ground cultural resources were identified within the subject property.
Boerema, Jana	10/3/2017	1689679	Cultural Resources Assessment for the Seattle City Light Technical Training Center, King County, Washington	Less than 5 m from the northern bank of the Duwamish	No precontact or significant cultural material was discovered in the APE. The only cultural material found during this survey was scattered debris within the fill deposit that

Author(s)	Date	NADB No.	Title	Distance from Current Project	Findings Relevant to the Current Project
					was not directly datable.
Marcotte, Jaqueline	3/18/2015	1686226	West Duwamish Trail Extension Project, Seattle, Results of Archaeological Monitoring	Outside of Duwamish riverbank area, to the north of Duwamish.	No significant archaeological resources were identified during excavation monitoring.
Hodges, Charles	3/19/2015	1686270	Results of Geoarchaeological Monitoring at 8th Avenue	Outside APE; 127 m northeast of APE boundary.	Multiple boring locations east of Slip 4. Possible buried archaeological deposits, but boring results are unclear and not consistent.

Note:

NADB = National Archaeological Database

No. = Number

Table 3-2. Previously recorded archaeological sites within 1 mile of the APE.

Site Trinomial	Description	Distance from Project	Comments
45KI1142	Wooden Wagon Wheel	Within APE	Isolate
45KI815	Lwalb Old Channel One	Approximately (b)(3) from the bank of the Duwamish River	Precontact Site: (b)(3) Determined NRHP eligible by officer of the DAHP.
45KI816	Lwalb Old Channel Two	Approximately (b)(3) from the bank of the Duwamish	Precontact Site: (b)(3)
45KI817	Site Three	Approximately (b)(3) the Duwamish	Precontact Site: (b)(3)
45KI01149	Hamm Creek Pilings	Located along the left bank of the Duwamish waterway	Historic Site: Waterfront structure remnants. Located within the Study Area boundary.
45KI1183	Not applicable	Approximately (b)(3) Duwamish	Isolate: (b)(3)

Table 3-3. Previously recorded cemeteries within 1 mile of the APE.

Site Trinomial	Description	Distance from APE	Comments
45KI01526	Rose Street	0.30 mile to west of Duwamish	Human Remains found in 1925. The remains found at a depth of 18 inches in sandy clay soil.
45KI00910	Maple Grave/Memorial	0.70 mile to east of Duwamish	A monument and urn of the ashes of John and Samuel, son, Maple.
45KI01158	Potter's Field	0.57 mile to north of Project area	North of Project area on eastern side of the Duwamish. Cemetery used from 1876 to 1912.
45KI01159	King County Crematorium and Columbarium	0.58 mile north of Project area	North of Project area on eastern side of the Duwamish River. Crematorium was used at same time of the Potter's Field from 1876 to 1912.
45KI01004	Fox Avenue	0.75 mile north of Project area	Human remains found in 1959. Might be from Potter's Farm cemetery.

Table 3-4. Historic register listed properties within 1 mile of the APE.

Site Trinomial	Listing Number	Property Name	Register	Address
45KI138	78002755	Seattle Electric Company Georgetown Steam Plant	National Historic Landmark	6605 13th Ave S, Seattle, Washington, USA
45KI239	83003342	Old Georgetown City Hall	National Register; Washington Heritage Register	6202 13th Avenue South, Seattle, WA
45KI136	NA	Maple Donation Claim	Washington Heritage Register	Airport Way South, Seattle, WA
45KI1165	13000823	Ford Motor Company Assembly Plant	National Register; Washington Heritage Register	4735 East Marginal Way, Seattle, WA
45KI139	71000872	Building No. 105, Boeing Airplane Company	National Register; Washington Heritage Register	Purcell Avenue, Tukwila, WA
45KI259	82004228	14th Avenue South Bridge - Seattle	National Register; Washington Heritage Register	Spans Duwamish River, Seattle, WA

4 METHODS

Stell Archaeologists James Brown, MS, and Matthew Breidenthal, MS, conducted archaeological monitoring that observed on-shore sampling and the processing of cores aboard the processing barge. The ground-disturbing activity consisted of sample collection for the chemical analysis of sediment. Sample collection occurred in-water, on the riverbanks, and in the upland setting. This sampling was used to refine the delineation of remedial action level (RAL) exceedances and assess the vertical extent of contamination in dredging or partial dredging and capping areas. Multiple ground-disturbing activities occurred to collect sediment samples. These collection strategies varied between geotechnical and sediment sampling for in-water and riverbank areas; these collection strategies are outlined in the subsections below.

All other monitoring activities were conducted following the monitoring plan developed by Stell (Breidenthal and Steinkraus 2021). See Appendix A for a full copy of the Monitoring and Inadvertent Discovery Plan.

4.1 TYPES OF GEOTECHNICAL SAMPLING FOR BANK AREAS

Geotechnical sampling included any of the following four types of geotechnical sampling:

- Geotechnical borings advanced from a truck or track-mounted drill rig staged on the upland (above MHHW) or bank (slope area below MHHW)
 - o Boring depths ranged up to 40 feet below existing ground surface
 - o Boring diameters were approximately 4 inches
- Vibracore, geoprobe, and/or push core for collection of disturbed geotechnical samples
 - o Smaller diameter than geotechnical borings (approximately 2 inches)
 - o Maximum depth of boring was approximately 15 feet depending upon refusal
- Hand auger coring
 - o Smaller diameter than geotechnical borings (approximately 2 inches)
 - o Coring depth limited by sample refusal—typically 4–6 feet maximum depth
 - o Upland and bank areas only—not used over water
- Cone penetration testing (CPT) advanced from truck or track-mounted rig staged on the upland, bank, or a barge
 - o CPT diameter is less than 2 inches
 - o Maximum depth of penetration is approximately 50 feet but depends upon presence of debris and density of subsurface materials.
- Vane shear test (VST)—either downhole from the geotechnical boring rig or by hand
 - o VST diameter was typically less than 4 inches
 - o Maximum depth of penetration was approximately 10 feet but depends upon presence of debris and density of subsurface materials

4.2 TYPES OF GEOTECHNICAL SAMPLING FOR IN-WATER AREAS

In-water geotechnical sampling locations were spatially distributed to identify geotechnical conditions in the federal navigation channel and shallow subtidal/intertidal areas where remedial action is anticipated to be required. Specific types of geotechnical sampling for in-water areas include:

- Geotechnical borings advanced from a drill rig staged on a floating barge
 - o Depths ranged up to 40 feet below the existing sediment surface
 - o Boring diameters were approximately 4 inches

- Surface grabs for disturbed geotechnical samples
- Grab captures 0.1 square meters (m²) to about 15 cm deep Dynamic cone penetrometer (DCP)—hand tool collection in very shallow water areas or bank areas
 - o Maximum depth was 15 feet
- DCP diameters were typically 1.5 inches

4.3 TYPES OF SEDIMENT SAMPLING FOR BANK AREAS

Sample locations for 7 out of 11 bank areas varied based on sampling methods as noted below:

- Vibracore or push core were used to collect sediment samples on the bank slope if coring equipment were able to access bank areas and if equipment was able to penetrate into ground surface.
 - o Diameter of coring equipment varied between approximately 2 and 4 inches.
- Surface grab samples and/or shallow hand-driven cores were collected by hand on banks where coring equipment was not able to access bank areas (due to steep slopes or lack of equipment access [i.e., under pier areas]) or if the bank was made up of materials that coring equipment could not penetrate (i.e., riprap or debris-covered slopes).
 - o Maximum depth of sampling was a few inches to a maximum of 3 feet.

4.4 TYPES OF SEDIMENT SAMPLING FOR IN-WATER AREAS

Sediment sampling was conducted in and around the RAL exceedance areas to refine the horizontal (i.e., lateral) boundaries of the RAL exceedance areas and to delineate vertical extent of contamination in RAL exceedance areas requiring dredging or exposed by adjacent dredging. The horizontal extent sampling included a combination of surface grabs (0–10 cm) and subsurface cores (0–45 cm and 0–60 cm cores).


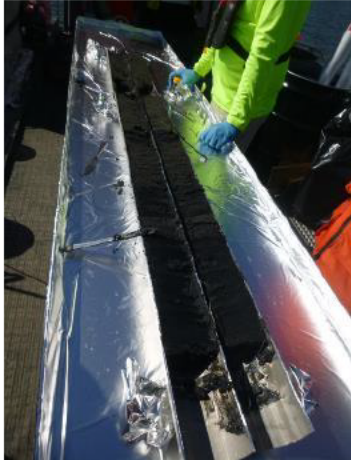
The types of environmental sediment sampling for in-water areas include the following:


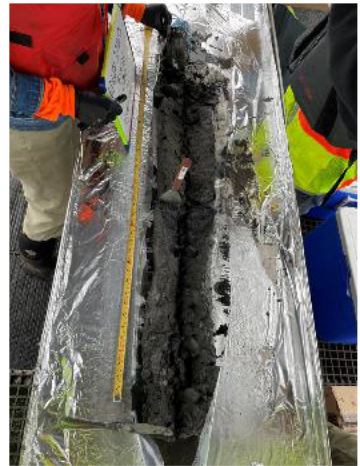
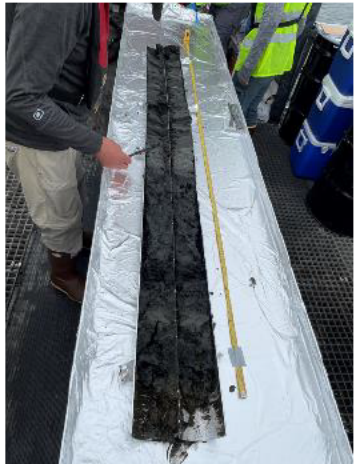
- Vibracoring from a sediment sampling vessel was used to collect subsurface (0–45 cm and 0–60 cm) plus deep subsurface (subsurface cores deeper than 0–45 cm or 0–60 cm) sediment samples for in-water areas
 - o Diameter of coring equipment (approximately 4 inches)
 - o Subsurface sampling depths were 0–45 cm (1.5 feet) and 0–60 cm (2 feet)
 - o Deep subsurface sampling depths were up to a maximum of 10 feet below the sediment bed
- Surface grab samples (0–10 cm) were collected from a sediment sampling vessel
 - o Grab captures were 0.1 m² to about 15 cm deep


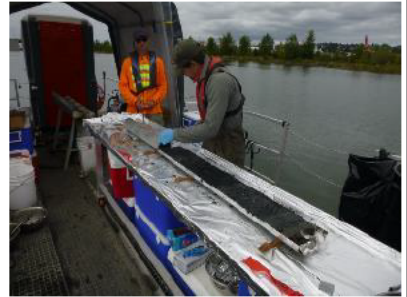

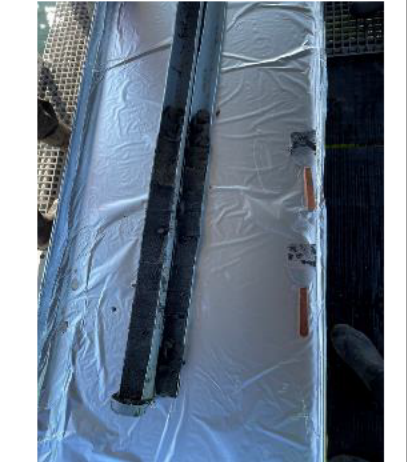
5 RESULTS

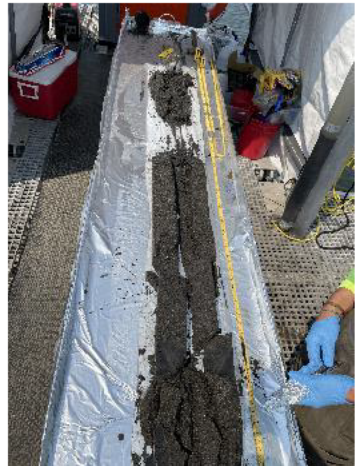

Monitoring began on June 28, 2021 and continued through August 3, 2021. Monitoring was not a daily occurrence. The frequency of monitoring varied over the duration of the Project based upon the sampling of archaeological sensitive locations. Monitoring was primarily conducted by Stell archaeologists James Brown, MS, and Matt Breidenthal, MS. Monitoring of cores on the processing barge focused on observing the opening and sampling of the cores; observation of sample collection was not conducted due to no subsurface materials were visible during drilling. On-shore sampling was observed 5 of the 11 total monitoring days, while 8 days of core processing was observed of the total 11 monitoring days. There were 2 days that on-shore and core processing monitoring overlapped. The majority of the cultural resources identified were determined to be modern. None of the materials were temporally diagnostic; thus, Stell archaeologists were not able to determine ages for any of the materials that were identified. Cultural materials that were noted included ceramic fragments, glass fragments, small chunks of brick, and highly corroded and rusted metal fragments. See **Table 5-1** for additional details.

Table 5-1. Monitoring Table

Date	Monitor	Cultural Materials (Y/N)	Cultural Materials Description	Work Undertaken	Photo
6/28/2021	James Brown	N	NA	Soil sampling at Salmon Cove Park	
7/6/2021	Matt Breidenthal	N	Modern Glass Fragments	Core processing	

Date	Monitor	Cultural Materials (Y/N)	Cultural Materials Description	Work Undertaken	Photo
7/12/2021	James Brown	N	Modern Brick and Metal Fragments	Hand auguring on shore	
7/14/2021	James Brown	N	Modern Brick, Metal, Ceramic, and Glass Fragments	Core processing	
7/15/2021	James Brown	N	NA	Core processing	

Date	Monitor	Cultural Materials (Y/N)	Cultural Materials Description	Work Undertaken	Photo
7/19/2021	Matt Breidenthal	N	NA	Core processing	
7/20/2021	Matt Breidenthal	N	NA	Core processing	
7/26/2021	Matt Breidenthal	N	NA	Upland core sampling	
7/27/2021	Matt Breidenthal and James Brown	N	NA	Upland core sampling and core processing	

Date	Monitor	Cultural Materials (Y/N)	Cultural Materials Description	Work Undertaken	Photo
8/2/2021	James Brown	N	NA	Core processing	
8/3/2021	James Brown	Y	Glass, ceramic, brick, and metal fragments	Hand auguring and core processing	

Note:

NA = Not Applicable

6 INTERPRETATIONS AND CONCLUSIONS

Anchor QEA contracted Stell to conduct cultural resource monitoring for the PDIs Phase II sampling for the LDW Sediment Cleanup Project. The Project area is located in King County between the cities of Tukwila and South Park. The Project area covers 301.27 acres; however, discrete areas within this Project's APE were used for sampling. Modern cultural materials were identified during monitoring; however, they were deemed modern due to there being no temporally diagnostic evidence on the materials such as makers marks and/or handmade glass. Additionally, these materials were not deeply buried; instead, they were in shallow deposits in the top 10–20 cm of the cores. Based upon the modernity of the materials and their shallow deposition, Stell archaeologists determined that they were modern.

The findings of this report concur with prior cultural resource investigations within the vicinity that identified large fill deposits and that likely, any intact cultural resources will be deeply buried. In the next 10–20 years, many of the cultural resources situated around the Project APE will be considered archaeological in nature, most of which would be associated with early industry along the riverway—much of which would be associated with the development of the Boeing Company.

Archaeological fieldwork was conducted from June 28, 2021, to August 3, 2021, with a total of 11 days of monitoring taking place during that period. **This report is a summary of monitoring activities. No significant cultural resources were discovered during monitoring; the only materials identified were modern.**

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APPENDIX A
Monitoring and Inadvertent Discovery Plan

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